

### **REMARKS**

Claims 1-7, 13-16, 18-21, 25-32, 38-41, 43-46, and 51-61 are rejected in the Office Action. Claims 8-12, 22-24, 33-37, and 47-50 are found allowable except for their dependence on rejected base claims. Claims 1-3, 5-7, 9-12, and 14-37 are amended, and claims 39-61 are cancelled. Accordingly, claims 1-38 remain pending.

Applicant respectfully requests clarification regarding the status of claim 17. That claim is objected to for an informality, but is not rejected, allowed, or objected to for dependence on a rejected base claim.

### **DRAWINGS**

In "Drawings" on page 2 of the above-identified Office Action, the Examiner objects to Figures 2 and 3 for lacking a legend such as "prior art." The Examiner further objects to Figure 8 because of a typographical error. In response, Applicant submits replacement and marked-up drawing sheets showing appropriate corrections.

### **CLAIM OBJECTIONS**

In "Claim Objections" on page 3 of the above-identified Office Action, the Examiner objects to claims 1-61 for various informalities. In response, Applicant has amended claims 1-38 as requested, obviating the objections. The objections to claims 39-61 are obviated by the cancellations of those claims.

### **CLAIM REJECTIONS - 35 USC §112**

In "Claim Rejections – 35 USC §112" on page 5 of the above-identified Office Action, the Examiner rejects claims 54 and 58-61 as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention, as required by §112, second paragraph.

Claims 54 and 58-61 have been cancelled, obviating their rejections.

#### **REJECTIONS UNDER 35 USC §101**

In "Claim Rejections – 35 USC §101" on page 6 of the above-identified Office Action, the Examiner rejects claims 26-38 as being directed to non-statutory subject matter. More specifically, the Examiner asserts that the claims are directed to an article, and that an article is a computer program per se, which is not statutory subject matter. Applicant respectfully disagrees.

As the Examiner notes, claim 26 recites a storage medium having a plurality of machine accessible programming instructions. These claims are often referred to as "Beauregard claims", in reference to the Federal Circuit Court's decision in *In re Beauregard*, 53 F.3d 1583 (Fed. Cir. 1995), in which the Federal Circuit held that a computer-readable storage device, e.g., a floppy disk or CD, containing a set of instructions that causes a computer to perform a process is patentable subject matter. The court held that such instructions, stored on an article, are not merely "printed matter" (i.e., software per se) and are accordingly patentable. Because claim 26 recites precisely the sort of article of manufacture that was held to be patentable under §101 in *Beauregard*, claim 26 is also patentable under §101. Claims 27-38 depend from claim 26, and accordingly are also patentable under §101 for the same reasons.

Also, in "Note", item 9 on page 7, the Examiner requests that Applicant remove the phrase "capable of" from claims 15-20, 22-25, 40-45, and 47-52, because the phrase is "not a positive claim limitation." While Applicant disagrees with the Examiner, Applicant has amended the claims as requested to expedite prosecution.

#### **REJECTIONS UNDER 35 USC §102**

1. In "Claim Rejections – 35 USC §102" on page 4 of the above-cited Office Action, the Examiner rejects claims 1-3, 7, 26-28, and 32 as being anticipated by

Claim 1 recites a "method of establishing at least two node-disjoint paths comprising:

establishing, by a source node, a first directed path, having direction based path segments, from the source node to a target node;

establishing, by the source node, a second directed path, having direction based path segments, from the source node to the target node;

merging, by the source node, the first and second directed paths into a merged path; and

dividing, by the source node, the merged path into a third and a fourth node-disjoint directed paths between the source node and the target node."

In contrast, Schollmeier fails to teach or suggest "dividing, by the source node, the merged path into a third and a fourth node-disjoint directed paths between the source node and the target node", as is claimed in claim 1. Rather, Schollmeier simply teaches a multipath routing scheme capable of generating a plurality of paths between a source and a target, and refers to the sum of these paths as a "hammock." According to Schollmeier, paragraph 15, at least 2 disjoint transmission paths are determined through use of known multipath algorithms. The operation is then repeated for each of the nodes along the transmission paths, creating a plurality of transmission paths referred to as a "hammock." This process is illustrated in greater detail in Figures 1-3 of Schollmeier.

Even assuming for the sake of argument that the determining of the at least 2 disjoint paths in Schollmeier reads on the establishing of the first and second directed paths, and that the hammock of Schollmeier reads on merging the first and second directed paths into a merged path (points, which Applicant does not concede, that need not be addressed at this time), nothing in Schollmeier teaches dividing the merged path (hammock) into node-disjoint directed paths, as is claimed

in claim 1.

In fact, the entire purpose of Schollmeier is determining the hammock set, not node-disjoint paths which may be obtained through dividing that set. No disclosure is made of any sort of dividing of the hammock set or any other merged path into node-disjoint paths, nor of the usefulness of the hammock for such purposes.

And even if one assume that the disjunct paths mentioned in paragraph 15 of Schollmeier include node-disjoint paths, Schollmeier still does not teach arrival at the disjunct paths through dividing any sort of merged path. The only merged path in Schollmeier, the hammock, is in fact produced by combining the disjunct paths. It would make no sense to one skilled in the art to combine the already-disjunct paths simply to again divide them.

Accordingly, claim 1 is patentable over Schollmeier under §102.

Independent claim 26 includes in substance the same recitations as described above for claim 1. Thus, for at least the above stated reasons, claim 26 is patentable over Schollmeier under §102.

Claims 2-3, 7, 27-28, and 32 depend from claims 1 and 26, respectively, incorporating their limitations. Thus, for at least the same reasons discussed above, claims 2-3, 7, 27-28, and 32 are patentable over Schollmeier under §102.

2. In "Claim Rejections – 35 USC §102" on page 8 of the above-cited Office Action, the Examiner rejects claims 14-16, 18-19, 25, 39-41, 43-44, 51-53, and 55-57 as being anticipated by U.S. Patent Publication No. 2005/0036486 to *Sahinoglu et al.* (hereinafter "Sahinoglu") under 35 USC §102(e).

The rejections of claims 39-41, 43-44, 51-53, and 55-57 are obviated by their cancellations.

Claim 14 recites a "source node comprising:  
a transceiver to transmit and receive a wireless signal;  
a path generator to establish at least a first plurality of paths of communication, utilizing at least in part the wireless signal, between the source node and a target node;  
a path organizer to arrange the first plurality of paths generated by the path generator into a second plurality of paths that are node disjoint."

In contrast, Sahinoglu fails to teach or suggest "a path organizer to arrange the first plurality of paths generated by the path generator into a second plurality of paths that are node disjoint" as is claimed in claim 14. Rather, Sahinoglu simply discloses a source node capable of generating a plurality of data packets, transmitting those packets to the same target, and receiving from the target a plurality of response packets enumerating routes to the target and costs associated with each route. The source node may then compare the costs and select the route with the lowest cost.

While Sahinoglu arguably teaches both a transceiver and a path generator, Sahinoglu does not disclose a path organizer to arrange the generated paths *into a plurality of node disjoint paths*. The source node logic in Sahinoglu does admittedly disclose a path organizer of sorts, capable of organizing the generated routes by cost. But the path organizer of Sahinoglu simply does not arrange the generated paths into node disjoint paths. No mention of node disjoint paths or anything remotely close to reading on such paths is made in Sahinoglu, nor is the benefit of such paths recognized. Sahinoglu is simply concerned with determining the lowest cost route, regardless of any other path characteristics.

Accordingly, claim 14 is patentable over Sahinoglu under §102.

Claims 15-16, 18-19, and 25 depend from claim 14, incorporating its limitations. Thus, for at least the same reasons discussed above, claims 15-16, 18-19, and 25 are patentable over Sahinoglu under §102.

**REJECTIONS UNDER 35 USC 103(A)**

1. In "Claim Rejections – 35 USC §103" on page 13 of the above-cited Office Action, the Examiner rejects claims 20-21 and 45-46 as being unpatentable over Sahinoglu in view of Schollmeier under 35 USC §103(a).

The rejections of claims 45-46 are obviated by their cancellations.

Schollmeier does not cure the deficiencies of Sahinoglu. Thus, claim 14 remains patentable even when Schollmeier is combined with Sahinoglu.

Claims 20-21 are dependent on claim 14, incorporating its limitations. Therefore, for at least the same reasons discussed above, claims 20-21 are patentable over Sahinoglu and Schollmeier, alone or in combination, under §103.

2. In "Claim Rejections – 35 USC §103" on page 14 of the above-cited Office Action, the Examiner rejects claims 4-6, 13, 29-31, and 38 as being unpatentable over Schollmeier in view of Sahinoglu under 35 USC §103(a).

Sahinoglu does not cure the deficiencies of Schollmeier. Thus, claims 1 and 26 remain patentable even when Sahinoglu is combined with Schollmeier.

Claims 4-6, 13, 29-31, and 38 are dependent on amended claims 1 and 26, respectively, incorporating their limitations. Therefore, for at least the same reasons discussed above, claims 4-6, 13, 29-31, and 38 are patentable over Schollmeier and Sahinoglu, alone or in combination, under §103.

**ALLOWABLE SUBJECT MATTER**

In "Allowable Subject Matter" on page 16 of the above-identified Office Action, the Examiner finds claims x allowable but for their dependence upon rejected base claims.

Applicant thanks the Examiner for finding the subject matter of those claims allowable (if re-written in independent form). For the above reasons, however, Applicant believes that the rejected base claims are also allowable.

**Conclusion**

Applicants respectfully assert that claims 1-38 are in condition for allowance. Entry of the foregoing is respectfully requested and a Notice of Allowance is earnestly solicited. Please charge any shortages and credit any overages to Deposit Account No. 500393.

Respectfully submitted,  
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Dated: June 13, 2007

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Fig. 2  
Prior Art

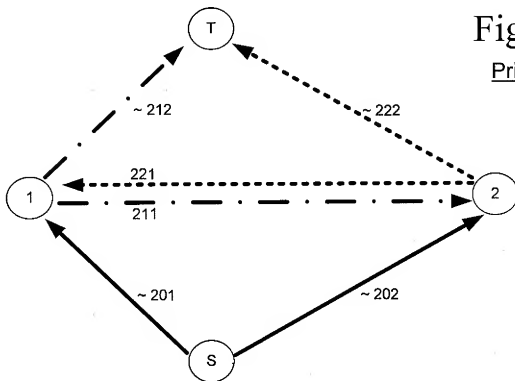


Fig. 3  
Prior Art

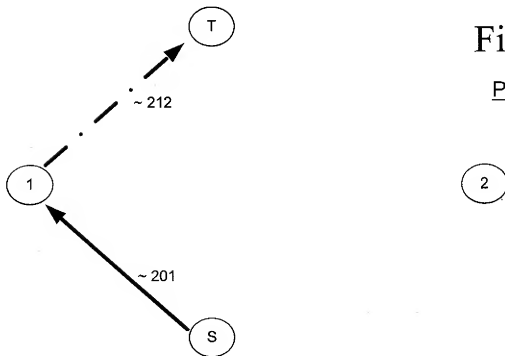




Fig. 8

